

ABSTRACT

A method for preventing the formation of contaminating polymeric films on the backsides of semiconductor substrates includes providing an oxygen-impregnated focus ring and/or an oxygen-impregnated chuck that releases oxygen during etching operations. The method further provides delivering oxygen gas to the substrate by mixing oxygen in the cooling gas mixture, maintaining the focus ring at a temperature no greater than the substrate temperature during etching and cleaning the substrate using a two step plasma cleaning sequence that includes suspending the substrate above the chuck.